

CHECKLIST ENVIRONMENTAL ASSESSMENT

Proposed Action: Approve Drilling Permit (Form 22)

Project/Well Name: State 23-55-36B-1

Operator: Petro-Hunt, LLC

Location: NENW Section 36 T23N R55E

County: Richland MT; Field (or Wildcat): Wildcat

Proposed Project Date: 06/30/2021

I. DESCRIPTION OF ACTION

Petro-Hunt, LLC plans to drill a vertical oil well in the Red River Formation 12,004' MD / TVD. Surface casing to be set at 2,100'.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS, OR INDIVIDUALS CONTACTED

Montana Bureau of Mines and Geology, GWIC website (Richland County Wells).

US Fish and Wildlife, Region 6 website

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA COUNTIES, Richland County

Montana Natural Heritage Program Website (FWP)

Heritage State Rank= S1, S2, S3, T23N R55E

Montana Cadastral Website

Surface Ownership and surface use Section 36 T23N R55E

Montana Department of Natural Resources MEPA Submittal

2. ALTERNATIVES CONSIDERED

No Action Alternative: The proposed well would not be drilled.

Action Alternative: Petro-Hunt, LLC would have permission to drill the well.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

3. AIR QUALITY

Long drilling time: 5-7 days drilling time.

Unusually deep drilling (high horsepower rig): Triple derrick drilling rig to drill a vertical oil well in the Red River Formation, 12,004' MD / TVD.

Possible H₂S gas production: Yes, slight H₂S possible from Mississippian Formations.

In/near Class I air quality area: No Class I air quality area nearby.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211. AQB review.

Comments: No special concerns – using triple derrick rig to drill to 12,004' MD / TVD. If there are no gas gathering systems nearby, associated gas can be flared under Board Rule 36.22.1220.

4. WATER QUALITY

Salt/oil based mud: Yes, will drill with oil based invert drilling fluids for the intermediate casing hole. main hole will be drilled with saltwater. Surface casing hole will be drilled with freshwater and freshwater mud system, Rule 36.22.1001.

High water table: No high-water table anticipated at this surface location.

Surface drainage leads to live water: No, the closest drainage is an unnamed ephemeral drainage about 240' to the southwest.

Water well contamination: None, surface hole will be drilled with freshwater and freshwater drilling fluids to 2,100', steel surface casing will be run and cemented to surface from 2,100' to protect any ground and surface waters. Closest water wells are four stockwater wells listed about ½ of a mile to the northwest and range from 30' to 55'. A 300' domestic water well and 185' stockwater well are listed about ½ of a mile to the northwest. Another stockwater well is listed about 670' to the northeast and is 80' deep. Another stockwater well is listed about ½ a mile to the southeast and is 280' deep. A domestic water well is listed about 7/10 of a mile to the southwest and is 30' deep. Another domestic water well is listed about 9/10 of a mile to the south and is 39' deep. A stockwater well is listed as about 9/10 of a mile to the south and is 280' deep. Three domestic water wells ranging from 30' to 280' are listed about 9/10 of a mile to the south.

Porous/permeable soils: No, sandy silty clay soils.

Class I stream drainage: No.

Groundwater vulnerability area: NA.

Mitigation:

☐ Lined reserve pit

☒ Adequate surface casing

☐ Berms/dykes, re-routed drainage

☒ Closed mud system

☒ Off-site disposal of **solids**/liquids (in approved facility)

☐ Other:

Comments: Steel surface casing will be run to 2,100' and cemented to surface to protect ground water. (Rule 36.22.1001).

5. SOILS/VEGETATION/LAND USE

Vegetation: Grassland.

Stream crossings: No stream crossings anticipated. Crossing only ephemeral drainages over existing county roads.

High erosion potential: Low erosion potential on small cut and small fill slopes, a cut of up to 2.2' and a fill of up to 4.5', required.

Loss of soil productivity: No, location to be restored after drilling, if nonproductive. If productive, unused portion of this drillsite will be reclaimed.

Unusually large wellsite (Describe dimensions): No, well site 225' X 325'.

Damage to improvements: Slight surface use appears to for grazing.

Conflict with existing land use/values: Slight.

Mitigation

- ☐ Avoid improvements (topographic tolerance)
- ☐ Exception location requested
- ☒ Stockpile topsoil
- ☐ Stream Crossing Permit (other agency review)
- ☒ Reclaim unused part of wellsite if productive
- ☐ Special construction methods to enhance reclamation

Access Road: Access will be over existing county road, #331. A new access of 1,848' will be built into location.

Drilling fluids/solids: A closed loop system will be used for this well. The cuttings will be hauled to a commercial disposal site and disposed.

6. HEALTH HAZARDS/NOISE

Proximity to public facilities/residences: No residences within ¼ a mile. Nearest residence is about ½ of a mile to the northwest.

Possibility of H2S: Yes, slight H2S possible from Mississippian Formations.

Size of rig/length of drilling time: Triple derrick rig. 5-7 days drilling time.

Mitigation:

☒ Proper BOP equipment (Adequate surface casing cemented to surface, Rule 36.22.1001, with working BOP stack should mitigate any problems, (5,000 psig annular and double ram), Rule 36.22.1014.)

- ☐ Topographic sound barriers
- ☐ H2S contingency and/or evacuation plan
- ☐ Special equipment/procedures requirements
- ☐ Other:

7. WILDLIFE/RECREATION

Sage Grouse: NA

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: None identified.

Creation of new access to wildlife habitat: No.

Conflict with game range/refuge management: No.

Threatened or endangered Species: Species identified as threatened or endangered are the Pallid Sturgeon, Northern Long-eared Bat, Whooping Crane, Piping Plover, and the Northern Long-eared Bat. The Montana Natural Heritage Program lists one (1) species of concern: Spotted Bat.

Mitigation:

- ☐ Avoidance (topographic tolerance/exception)
- ☐ Other agency review (DFWP, federal agencies, DNRC Trust Lands)
- ☐ Screening/fencing of pits, drillsite
- ☐ Other:

Comments: Private grazing surface lands. There may be species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done if a species of concern is discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands. No concerns.

IV. IMPACTS ON THE HUMAN POPULATION

8. HISTORICAL/CULTURAL/PALEONTOLOGICAL

Proximity to known sites: None identified.

Mitigation

- ☐ avoidance (topographic tolerance, location exception)
- ☐ other agency review (SHPO, DNRC Trust Lands, federal agencies)

Other:

9. SOCIAL/ECONOMIC

Substantial effect on tax base

- ☐ Create demand for new governmental services
- ☐ Population increase or relocation

Comments: No concerns.

IV. SUMMARY

No long term impacts expected. Some short term impacts will occur, but can be mitigated.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

**EA Checklist
Prepared By:**

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Title: Compliance Specialist

Date: 06/14/21